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What Immigrants Take from, and Give to, the Public Coffers

Julian L. Simon

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FACULTY WORKING PAPER

College of Commerce and Business Administration

University of Illinois at Urbana-Champaign

December 1, 1980

Final Report submitted to the
Select Commission on Immigration and Refugee Policy
Susan Forbes
Washington, DC 20006

Revised October 15, 1980

WHAT IMMIGRANTS TAKE FROM, AND GIVE TO, THE PUBLIC COFFERS

Julian L. Simon, Professor, Departments of
Business Administration and Economics

#730

Summary

The 1976 Survey of Economic Opportunity, carried out by the Bureau of the Census, gathered detailed information on the income and use of social services by over 150,000 families, including about 15,000 immigrant families. These data serve as the basis for estimates of the effects of an average immigrant family through the cost of welfare payments and schooling as well as through the benefits of the taxes paid by immigrants.

From the time of entry until about 12 years later, immigrants use substantially less public services (largely due to less use of Social Security because of youth) than do native families. Then immigrant usage becomes roughly equal to natives. After about 2-6 years immigrant families come to pay as much in taxes than do native families, and after that they pay substantially more. And the net balance of these two forces is positive in every year for natives. That is, immigrants contribute more to the public coffers than they take from them.

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"What Immigrants Take From, and Give To, The Public Coffers"

Julian L. Simon

THE STUDY IN BRIEF

The 1976 Survey of Economic Opportunity, carried out by the Bureau of the Census, gathered detailed information on the income and use of social services by over 150,000 families, including abut 15,000 immigrant families. These data serve as the basis for estimates of the effects of an average immigrant family in the years after arrival upon the income of an average native family through the cost of welfare payments and schooling as well as through the benefits of the taxes paid by immigrants.

The results show that from the time of entry until about 12 years later, immigrants use substantially less of such public services as welfare and unemployment compensation payments, food stamps, Medicare-Medicaid, and schooling for children than do native families, largely due to less use of Social Security because of their youthful age. Later, immigrant usage becomes roughly equal to that of natives. By the time the immigrant family retires and collects Social Security, it typically has raised children who are then contributing taxes to Social Security and thereby balancing out the parents' receipts, just as with native families. In this way there is a one-time benefit to natives because the immigrants arrive without a generation of elderly parents who might receive Social Security. After about 3-6 years average immigrant families come to earn as much as average native families and thereby pay as much in taxes than do native families; and after that they earn and pay substantially more. The net balance of these two forces—taxes paid and services received—is positive in every year for natives. That is,

immigrants contribute more to the public coffers than they take from them. When looked at as an investment by natives, similar to such social capital as dams and roads, an immigrant family is an excellent investment worth somewhere between $15,000 and $20,000, even calculated with relatively high rates for the social cost of capital. (This is in 1975 dollars, to be compared with mean yearly native family earnings of about $11,000 in that year.)

Immigrants also seem to have the effect of narrowing the income distribution of all families, which most people consider "beneficial." The earning distribution of male immigrant-workers suggests the possibility that immigrants may compete disproportionately with low-wage workers for more than a decade after entry; this apparent effect may be specious, however, explainable by age distribution rather than by job-market characteristics of immigrants.

The results arrived at here generally square with findings of previous research. The pattern of immigrants quickly contributing more in taxes than they receive in services is also found in Israel and in Canada. And the data on age distribution and the number of earners square with studies of UK as well as with studies of Israel and Canada.

WHAT IMMIGRANTS TAKE FROM, AND GIVE TO, THE PUBLIC COFFERS*

Julian L. Simon

I. INTRODUCTION

A rational immigration policy would take into account all the costs and benefits of immigrants with respect to natives' incomes, employment, and tax burdens, with their net balance. The main aim of this study is to estimate the amounts of public services that immigrants use, including social security, unemployment compensation, public assistance, food stamps, and education. Because of the composition of the sample, and of the questionnaire, it will not cover the special programs that Indochinese and Russian refugees benefit from now. The unemployment rates of immigrants at present and in past periods will also be estimated, as another way to estimate the present burden for natives' unemployment and welfare.

A secondary aim of the study is to estimate the incomes of immigrant families, and from these incomes to roughly calculate the taxes paid by immigrants. With such data on tax contributions, plus the data on transfers to the immigrants, it should then be possible to estimate the net transfers between immigrants and natives, that is, the net effect of immigrants on natives through the public coffers.

The basic source of data is the 1976 Survey of Income and Education (SIE), conducted by the Bureau of the Census.

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*I greatly appreciate the programming and wise counsel about the data of Jeremy Atack, and the research assistance of DaNien Tzang. Rick Sullivan and David Simon checked the computations. Francine Blau, Barry Chiswick, Susan Forbes, Rita Simon, and Jeremy Atack gave me very helpful comments on an earlier draft. Guillermina Jasso and Mark Rosenzweig discovered that the Survey of Income and Education contained income and welfare data on a large number of immigrants and thereby made this study possible.

The most difficult and challenging part of the work has been--and continues to be--the decisions about (a) the comparison framework: For reasons given below, I decided to compare recent entry cohorts and all natives, without further classification or standardization in the main runs; (b) the units to use as basic observations: I decided to compare all families with a foreign-born head (but not with just a foreign-born spouse or child) to all native families without regard for age or other criteria, again for reasons given below; (c) the overall accounting framework: I decided to include social-welfare transfers, taxes, and school expenditures, all reduced to a single dollar-value comparison with a present-value framework. It is upon these judgments that the validity of this work stands or falls, and its quality should be judged upon this and not upon the extent of theoretical and econometric refinements and elaboration, both of which I have tried to reduce to a minimum in this report.*

Estimates are developed for all immigrants entering in a given year in such fashion that the effects of a proportional change in immigration quotas can be projected. The data for immigrants as an entry cohort yield information about the "cost" side of admitting a group of immigrants, to be balanced against the "benefits" of taxes paid and other social contributions by that group. Other economic and non-economic influences are very important, too, but are not dealt with in this report.

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*The most time-consuming aspect of the work, however, was the creation of usable computer files, with all the accompanying glitches that one understands only after having worked with a census-type tape.

Economists who are oriented primarily to explanatory analysis may not at first feel at home with the unconditional-classification analyses reported below. In my judgment, however, such unconditional comparisons are the appropriate method for the evaluation of social decisions with respect to the variables being considered—as, for example, the overall economic effect of a cohort of immigrants is appropriate for decisions about the total number of immigrants to admit.

There has been little systematic work on this general topic. I have gotten ideas from North and Houston's study of services used by illegal immigrants (1976), from Jones' and Smith's (1970) study of new Commonwealth immigrants into the UK, and from Israeli and Canadian panel studies. The results are broadly consistent with these other studies of immigrants.

The organization of this report is as follows: Section II describes the sample. Section III estimates the total amounts of public services used by the average immigrant in various years following his entry into the U.S. (The term "his" is used for reasons explained below.) Section IV estimates the taxes paid by immigrants. Section V calculates the net-balance effect of immigrants of various cohorts upon natives. Section VI briefly discusses the effects of immigrants on the income distribution. Section VII discusses various criteria for admission in connection with the economic characteristics of various subgroups of immigrants. Section VIII concludes and summarizes. The survey is described in the Appendix, and a questionnaire is duplicated there. A list of notation and classifications used may also be found in Appendix A.

II. THE SAMPLE

The SIE gathered data nationally on 158,500 households, stratified in such a manner as to include more-than-proportional numbers of households with children living in poverty. The survey coverage is good, because only 7,300 households refused interview. All households with foreign-born heads constitute the main sample used in this work. A random subsample of native-American households is used for comparison purposes drawn from the entire sample less families with immigrant or Puerto Rican members. The native sample was drawn with four systematic starts, so that the means of the sub-samples may be compared as a quick check of sample variability. Persons in private and public institutions such as nursing homes and hospitals were not included in the SIE survey.

Puerto Ricans are not included in the immigrant group because they are in no way governed by immigration laws. As a separate group they may be of interest, but they are not relevant to the social decisions to which this paper pertains.

It is not known whether any illegals are in the sample of immigrants, because no question would indicate such status. But given the relatively small numbers in recent cohorts compared to the total, and given the relatively small number of persons of Mexican and Caribbean origin in the sample, it is doubtful that illegals could in any case have much of an effect in the overall results. Similarly, there is no question that indicates whether a person is an "economic" immigrant, a "family completion" immigrant, or a refugee. But one may presume that many of the Cubans, and many of the Russians and Poles who entered subsequent to 1965 or 1970, are refugees.

The primary unit of analysis in this study is the male immigrant together with the family he brings or acquires. This means that families with female immigrants married to male natives are excluded from the main analyses. The logic is as follows: Imagine a male immigrant who marries a female immigrant and has children. It is reasonable to view the effects of the couple plus their children as the full effects of the male's and female's immigration. Now imagine that the same male and female had instead married natives who would otherwise have married each other, and that both families are now counted in the immigrant sample. Though there is no more total effect on natives' income than before, on average, the results would show twice as much effect. Hence this would be double-counting. We can get rid of most of the misleading double-counting by counting only male-immigrant-head households.* (Because the numbers of male and female immigrants are not the same--the number of female immigrants in the childbearing ages, all in all, is somewhat greater than the number of males--the procedure is not perfect. But the numbers are close enough for most practical purposes.)

The family rather than the household or the individual seems the appropriate unit of analysis. One important reason for not focussing on individuals is that it is on the basis of family needs that public

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*Comparisons have been made of married-couple families with (a) only the male an immigrant, and (b) only the female an immigrant, to see whether including only the males introduces bias. Direct comparisons holding entry-date and/or age of immigrants are inappropriate because the female immigrant's husband is, on average, several years older than the male immigrant. With this in mind, the comparisons do not indicate any major difference. Perhaps more convincing, adding the families with the female immigrant only to the general sample does not much affect the results.

welfare, ADC, and similar transfers are received; another reason is that children are attached to both parents where present, rather than to just one of them. Furthermore, the earnings of the various members tend to be pooled by the family as well as for assessment of income taxes. The household (though in most cases it is identical to the family) is not such a long-lasting unit with respect to other non-related earners, nor is income so likely to be pooled within it, or transfers to be based upon it. In some analyses, however, we shall work with the earnings of the head, and in later work with the earnings of the spouse.

Associated with this reasoning is the decision to consider single immigrant women as a unit of analysis, but not married immigrant women. A woman who immigrates single and then marries an immigrant disappears as an independent economic entity, and her impact is then through the family unit. For a single woman, the opposite is the case, and hence for unmarried adults, both males and females are included as separate families, without danger of double-counting.

The status of persons born abroad who spend some or much of their pre-adult years in the U.S. poses interesting questions. The most important issue concerns whether these persons and their families should be included in overall calculations for the immigrant family population. On the one hand, these persons are the direct consequence of social policies to admit immigrants; on the other hand, these persons are not likely to show the effects of immigration. Luckily for the clarity of our analysis, however, practically none of these persons appear in the cohort samples for the first ten years or so after entry, because there is not sufficient time to become heads of families, and these are the

cohorts that dominate any present-value calculations of the impact of immigrants. For older cohorts, I have made runs both with and without these persons, using various age brackets, to see how the results are affected, and have concluded that the distinction may be disregarded for this report.

In some analyses of earnings the sample includes only the males, as noted in those analyses.

III. PUBLIC SERVICES USED BY IMMIGRANTS AND NATIVES

The aim of this section is to estimate the overall gross cost to U.S. citizens of admitting an average immigrant to the U.S. (Gross benefits and net effects are discussed in subsequent sections.) More specifically, we wish to estimate for the average immigrant in an entry cohort (a) the amount of each service used for each year after entry, and (b) the yearly total.

The estimate for immigrants as an entire cohort is the most important for our purposes, because it is relevant to policy decisions about the total number of immigrants to allow in; it tells the gross cost to natives of the average immigrant family. (It may also be useful to know the quantities of services used by the various ethnic groups, and the various occupational groups. There is some "danger" in doing this, in that the results may be used against one or another group in an unfairly discriminatory manner. In the judgment of many other people, such risks should not be allowed to suppress otherwise interesting results; I myself would prefer not to make these analyses at all. Nevertheless, such estimates are offered in brief in Section VII.)

Table 1 shows the amounts of various types of payments received by persons who have been in the U.S. varying lengths of time. Columns 1-8 show the various transfer payments to entry cohorts and to natives. For example, for all immigrants who arrived in 1974 (leaving aside the female immigrants who married native males), the average unemployment compensation received in 1975 was $204. Another example: For the cohort who arrived in 1975, average public welfare compensation received was $76, but because the 1975 immigrants arrived after the start of the year, this number does not represent a full year in the country; nor can we assume half a year's experience, because (as we shall see later) the cohort's reported earnings are more than might be expected from a half year's residence in the U.S. (perhaps because they reflect earnings abroad).

- - - - -
Table 1
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The results for natives are shown in lines 10-14. (The total sample for natives in line 10, the four sub-samples in lines 11-14; comparison of the mean values for the four sub-samples affords a quick check on variability). The results for families that arrived in 1976 are shown in line 15; the meaning of these numbers is exceedingly unclear, because the data supposedly refers to the calendar year 1975.* And the cohorts

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*Mr. George Gray of the Census Bureau, who was in charge of the SIE Survey, said that there is no obvious explanation for the reporting of 1975 earnings and services used by the cohort who entered in 1976. The earnings could be earnings abroad, but the services could not be so explained. The likeliest explanation in his view is confusion on the part of the interviewers. The interviewers were not instructed specifically on this matter.

MEANS OF VARIOUS TRANSFER PAYMENTS RECEIVED BY VARIOUS ENTRY COHORTS* AND BY NATIVES (WEIGHTED BY SAMPLE PROBABILITIES TO BE UNBIASED ESTIMATE OF THE U.S.)

Year of Entry	(1) Unemployment Compensation, Workmen's Compensation, Veterans Benefits	(2) Public Welfare	(3) Supplemental Security	(4) ADC	(5) Food Stamps	(6) Social Security	(7) Medicare at $598 per patient year	(8) Medicaid at $126 per patient year	(9) Total Columns 1-5	(10) Total Columns 1-6	(11) Number of Children Aged 5-17 at $1302 per child year schooling	(12) Total Columns 1-8 & 11	(13) Number of Families
1974	$ 204	$ 131	$91	$ 91	$ 15 (15%)	$ 3	$ 29 (.049)	$ 32 (.256)	$532	$535	$820 (.63)	$1416	154
1973	238	47	63	6	7 (5%)	49	23 (.039)	12 (.097)	361	410	755 (.58)	1200	171
1972	237	85	38	164	12 (8%)	127	42 (.070)	24 (.191)	536	563	781 (.60)	1510	186
1971	261	189	16	13	17 (12%)	5	2 (.003)	14 (.111)	496	501	716 (.55)	1233	202
1970	341	100	50	11	16 (10%)	34	45 (.076)	19 (.157)	518	552	1042 (.80)	1659	224
1965-69	339	191	86	18	12 (12%)	152	48 (.081)	27 (.212)	646	798	1068 (.82)	1941	977
1960-64	385	91	69	18	12 (8%)	326	88 (.147)	21 (.169)	575	901	1237 (.95)	2247	769
1950-59	301	122	31	50	11 (9%)	424	76 (.160)	20 (.156)	515	939	1237 (.95)	2292	1762
Natives (all)	288	108	46	45	11 (9%)	735	167 (.280)	20 (.159)	498	1233	859 (.66)	2279	11212
Natives 1	285	95	42	48	7 (7%)	807	175 (.292)	16 (.129)		1284	(.70)		2638
Natives 2	270	126	52	50	10 (8%)	803	182 (.305)	23 (.182)		1311			2616
Natives 3	311	106	57	48	11 (9%)	675	157 (.263)	24 (.187)		1208			2661
Natives 4	288	106	35	37	9 (7%)	663	155 (.260)	17 (.137)		1132			2638
1976**	20	0	360	8	0 (0%)	6	(.000)	(.102)			(.38)		50
1975**	40	76	6	88	7 (9%)	31	(.045)	(.234)			(.71)		204
1920-49	239	32	73	11	3 (3%)	2229	(.805)	(.118)					3697
before 1920	164	30	116	56	3 (3%)	3090	(.129)	(.186)					1075

*Puerto Ricans not included with either immigrant or native.
**Data not relisble. See footnote in text, page 8.

that arrived in 1949 or before are shown below for completeness, though they are not relevant to policy decisions concerning immigration for the twin reasons discussed at greater length earlier: (a) At even a very low discount rate, the magnitudes related to persons who arrived a quarter of a century earlier do not weigh heavily in a present-value computation. (b) More important, the older immigrants must now be seen as part of an equilibrium system. Their children, and the economic impacts of those children, are an important part of the total effects of this cohort, but data on their children is not available; for the same reason, the 1950-1959 cohort should not be considered an important part of the sample.

Point (b) above requires amplification because the mechanism is not immediately obvious. To start, we must be clear that we are interested here in the resource flows due to immigrants that affect the economic position of natives taken as a group. That is, we want to compare the consumption of natives (including consumption of services) in two hypothetical situations, with and without a group of natives. We are not interested here in legal obligations, entitlements, equity, or the consumption of immigrants.

A simplified model may help. Consider a community of subsistence farmers where there is a surplus of land, and each farm produces the same output. Each family consists of a married couple, two children, and two retired adults. Children do not work until age 20, at which time they marry, have two children, and work for 20 years. At age forty the couple retires and lives until age sixty. On each farm, then, there are always one working couple, two child dependents and two aged depen-

dents, a stationary demographic system. The farm produces no surplus or saving; all production is consumed.

Consider, now, a newly married couple who move into the community. For 20 years, their production need support only the couple and their children leaving a surplus which the community can tax part of. During this period the "immigrant" family is an economic benefit to the native. After 20 years, when the immigrant couple retire, the family has the same characteristics as an "equilibrium" native family, and the retirement consumption of the "immigrant" couple is paid for by their children. This illustrates how there is a one-time benefit to natives during the first years that an immigrant couple is in the community, and that there is no reverse flow from their own "social security payment" after they retire. And the nature of the obligation between the immigrant couple and their children (which leads their children to support them) has no bearing upon the consumption of natives.

In column 9 we read the totals for the five most important categories of welfare payment transfers aside from social security. We see that the average family in each of the cohorts of immigrants since 1950-1959 uses about the same or slightly more such services than do native families--ranging from $137 less to $148 more. But when Social Security* is included, we see in column 10 that immigrants received much less such welfare payments in total than do natives--ranging from $294 less to $823 less. Given the consistency from cohort to cohort, there is no

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*The fact that Social Security is "earned" is not relevant in this context. Whether a payment is "earned" or is "charity" refers to the legal and ethical obligations between persons. Our focus here is only on whether certain flows do or do not take place.

question of the statistical significance of the smaller use by immigrants than natives. The main economic significance is that the immigrants do not use higher amounts of services, as is frequently alleged.

Education is an important public service used by immigrant families. The SIE survey does not show the total number of children in the family, but it does show the number living at home. This latter number should not be a bad approximation for young families and for children aged ≤ 17. (For more mature families, one could use Census data, and perhaps Bean's work on the Census tape to be reported to the Select Commission.) Column 11 shows the average number of children per family between the ages 5 and 17 inclusive. Immigrant families residing in the U.S. more than five years have more children in that age bracket than do native families on the average (due to age composition rather than fertility differences, of course). I multiplied these numbers by the 1975-76 average annual expenditure* per student in public elementary and secondary schools of $1,302 (daily membership, implicitly assuming that private schools are an insignificant factor); the results are also shown in column 11. In this category, immigrants use substantially more services than do natives after a few years--$476 more per family for the 1960-64 and 1950-59 cohorts than for natives.

Next, we consider Medicare and Medicaid.** Column 7 and 8 show the proportions of the various groups that use these services. The average

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*USHEW, Statistics of Public Elementary and Secondary Day Schools, Fall 1975, Table 2.

*DHEW Publication No. (SRS) 76-03150, NCSS Report B-1 (12/75), Medical Assistance (Medicaid) Finances Under Title XIX of the Social Security Act, December, 1975.

cost per user of Medicare was $592 in 1975, and for Medicaid it was $126. (The average cost per person over 65 was $205 for Medicaid, and a considerably large proportion of natives than of recent immigrant cohorts are over 65, but I shall not bother to make an adjustment for this).

Another relevant matter is the distribution of persons in the institutional population among natives and within the various immigrant units. These persons are not included in the SIE sample. We can be sure, however, that institutionalized persons are found in larger proportions among natives because the elderly constitute a large part of this sub-population. For example, of the 2,132,621 total inmates of institutions in 1970, the distributions by age (together with total U.S. population) were: under 25 years, 447,530 (93,314,000, for .47%); 25-44, 349,423 (47,979,000, for .73%); 45-64, 364,022 (41,818,000, for .87%); 65 and over, 971,646 (20,102,000, for 4.8%).* And the annual expenditures per inmate are high--perhaps $6,000-$7,000 in 1976.** However, a substantial proportion of these persons are in private institutions, and the breakdown by natives and by immigrants of various cohorts has not been published (though the breakdown by age for immigrants and natives is available). Given that less than one percent of the population is in institutions, implying an average expenditure of perhaps $60 per person in total and less for public expenditures, the matter may safely be neglected.

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*U.S. Bureau of the Census, Subject Report PC(2)-4E, Persons in Institutions and Other Group Quarters, July, 1973, p. 26.

**For example, $6,647 for correctional institutions in 1970, $5,541 for mental institutions in 1970, and $5,016 for chronic disease nursing homes in 1967.

Special assistance to refugees--which in 1980 amounts to $1,000 per person in cash to the assisting refugee organization plus some overhead, and also some special programs--also has not been included in the analysis, because there is no way of knowing which families in our sample came as refugees. Aggregated statistics, however, show that refugees have always been a small enough fraction of total immigrants so that the present-value calculations would not be much affected by an allowance for this cost. This effect and the institutional population effect work in offsetting directions.

Now we are in a position to estimate the average services used by the various groups. This total is shown in column 12. There we see that the very recent cohorts use much less services than do natives—for example, $971 less per family for the 1973-1974 cohorts considered together than for natives. The amounts of services used by older cohorts are higher; they move upward and reach equality with natives some 10-15 years after arrival.

Figure 1 plots the data in column 12, Table 1. A freehand curve allows us to calculate the change in services used with an additional year in the United States. One may also estimate this relationship in a more formal fashion, but I shall not bother to fit various functions now.

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Figure 1
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IV. TAXES PAID BY IMMIGRANTS

To avoid confusion, it is crucial not to compare the data on earning patterns in this report with earning patterns discussed by Chiswick (1978), Blau (1980), and others. Their aim is to compare natives to

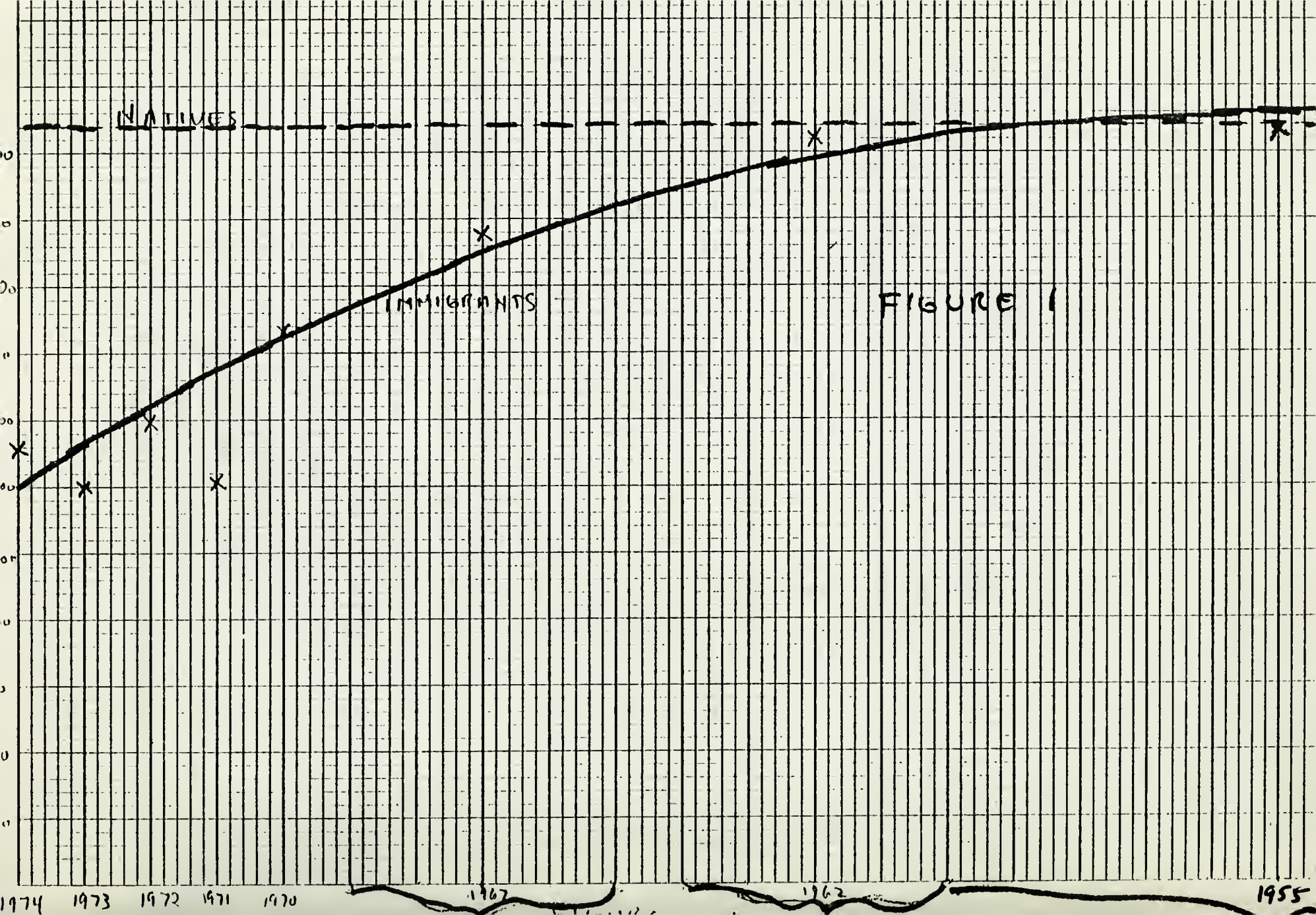

FIGURE 1

immigrants with as many factors other than immigrant-native differences held constant, in order to understand the nature of the immigrant-native difference; by contrast in this report, nothing is held constant other than year of entry, because--as mentioned earlier--the aim here is to assess the unconditional impact of that cohort on the natives' standard of living. And North's data (1979, p. 75) for the first six years in the country, based on Social Security data, refer to earnings of adult males rather than to family earnings. Yet the broad patterns of the family results clearly are compatible with the other studies.

Column 4 in Table 2 shows that somewhere between 2-6 years after entry, the average immigrant family comes to earn about as much as the average native family, and after that earns more. (This finding is based on the averages for the 1970-1973 cohorts.) This rapid approach to equality is heavily influenced, of course, by age and education composition, and especially the absence of retired family heads among the immigrants.

Table 2 and Figure 2

Inferences from earnings data about taxes paid by various cohorts of immigrants, and by the representative native family, are tenuous though crucial. A key difficulty is that different proportions of overall taxes (not just income taxes) are paid by persons of different income levels (Browning and Johnson, 1979), which means that a proper calculation must be based upon the entire income distribution of a cohort of people, rather than just the mean. The distribution can be partially estimated from these data, and I shall do so in Section VI, but unfortunately the raw data on the original data are top-coded to "$50,000 or

FIGURE 1

ANNUAL RAINFALL AND NATURAL LOGARITHMS OF VARIOUS COUNTIES

1975 EARNINGS AND UNEMPLOYMENT DATA FOR IMMIGRANTS AND NATIVES
(STANDARD DEVIATIONS IN PARENTHESES)

Year Entered	(1) Head's wages and salaries	(2) Spouse's wages and salaries (whether there is or is not a spouse)	(3) Self-employment income	(4) Total wages and salaries	(5) Family earnings	(6) Number of persons in labor force	(7) Number of earners	(8) Number of persons employed	(9) Number of persons unemployed	(10) Estimated tax paid on wages .29 x (4)	(11) Estimated tax paid on earnings .29 x (5)
1974	$7162 (8107)	$1182	$ 80	$8890 (8773)	$ 9,192 (10,688)	1.26	1.35	1.09	.131	$ 2587	$ 2666
1973	8351 (9150)	1774	497	10,880 (10,087)	11,387 (9,996)	1.45	1.45	1.35	.071	3166	3302
1972	7738 (5901)	2048	133	10,458 (8218)	10,610 (8,383)	1.36	1.39	1.20	.165	3043	3077
1971	7603 (6549)	1574	1409	9416 (7615)	10,826 (9,871)	1.33	1.28	1.17	.115	2740	3140
1970	7294 (5876)	1717	610	9772 (7502)	10,383 (7,295)	1.51	1.51	1.29	.168	2848	3011
1965-69	8313 (7334)	2070	635	11,543 (8996)	12,247 (9,597)	1.49	1.54	1.36	.13	3359	3552
1960-64	9156 (8782)	2223	1450	12,248 (9925)	14,014 (11,310)	1.43	1.50	1.31	.112	3564	4064
1950-59	9592 (8285)	1874	1090	12,343 (9787)	13,542 (10,309)	1.47	1.55	1.34	.117	3592	3927
Natives (all)	7503 (8203)	1614	722	10,164 (9782)	11,037 (10,377)	1.76	1.37	1.18	.09	3008	3201
Natives 1	7377	1689	669	10,024		1.27	1.37	1.19	.091		
Natives 2	7457	1671	781	10,149		1.26	1.36	1.19	.086		
Natives 3	7716	1588	761	10,283		1.24	1.36	1.15	.089		
Natives 4	7454	1514	678	10,194		1.27	1.39	1.18	.100		
1976	3873 (6880)	824	732	4702 (8359)		1.20	.911	.839	.065		
1975	5520 (8675)	659	149	6531 (8896)		1.21	1.30	1.14	.094		
1920-1949	4609 (8308)	1029	871	8808 (10,219)	7,740 (11,248)	.806	.924	.744	.056		
before 1920	388 (2997)	62 (729)	167 (1517)	1771 (5707)	2,184 (7,254)	.232	.281	.199	.017		

Note:

The figure for total family earnings may seem larger than warranted by the individual columns for head's and spouse's wages and salaries, and for self-employment income. The data do add up in a sample of individual records. The likeliest explanation is that the family earnings are top-coded to $75,000, and are entered directly, but the other categories are top-coded to $50,000.

more" for individuals and $75,000 or more for families despite that the raw data included actual figures for the highest-income families (top-coding here is intended to avoid disclosure; it was also done for data on assets such as value of home, and liquid assets). Therefore, it is conceivable that two groups with the same calculated mean income from our data would actually pay different amounts of taxes because (a) distributions of families with the same mean income can pay different amounts of taxes, and (b) due to top-coding, the actual means can be different though the calculated means are the same.

A bit of light is thrown on the matter by the variance of the income distributions in our data. The distributions show somewhat smaller standard deviations relative to mean income for immigrants than for natives, as seen in Table 2. This probably means that, for the same mean income, a group of immigrants pays somewhat less taxes than a group of natives due to fewer very high incomes. Nevertheless, we are not likely to go far wrong by assuming that taxes paid are proportional to mean income.

The total of taxes paid—found in column 11 of Table 2—is the total receipts of the state, local and federal governments—$771.9 billion in 1979, which we may approximate as 32.6% of gross national product ($2,368.5 billion; Economic Report of the President, 1980, pp. 288, 203). The taxes paid by the median-income person are 85% of the taxes paid by the mean-taxes-paid taxpayer; that is, the rate at which taxes are paid by the person between the fifth and sixth deciles of income recipients—24.8% of income paid in taxes—is 85% of the mean 29.1% for all taxable incomes (Browning and Johnson p. 51). So even if immigrants are more concentrated near the mean than are natives, the effect will not be large.

In brief, though our estimate of taxes paid by immigrants and citizens is rough, the inaccuracy is unlikely to be important in this context because the incomes, and hence the taxes paid by the various cohorts and natives, are not very different from each other.

Table 3 consolidates the relevant data. Columns 2 and 3 show the total transfer payments and services used by immigrants in various years after entry (actually, by various entry cohorts during 1975), and by natives. Column 4 shows the differences between columns 2 and 3. On the assumption that the average family just pays for the average family's services used—an assumption that says no more than that government receipts equal the sum of government expenditures for various purposes—then column 4 indicates the net balance of immigrants with respect to services alone. That is, this is the amount of services more or less than an average taxpayer* pays for that an immigrant uses.

- - - - -
Table 3
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On the tax side now, we first deal with government expenditures that are invariant to the number of people, or that at least are pure public goods in the sense that the service they render to any person are independent of the service others obtain from them. The government expenditures that seem clearly to fit into this category are national defense ($85,552 million in 1975), international affairs ($6,922 million), and general science, space, and technology ($3,989 million), out of total

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*The average immigrant may here be considered like the average taxpayer subject to adjustments to come.

Table 3

OVERALL BALANCE SHEET FOR IMMIGRANTS

(1) Year	(2) Services used by cohort: from Table 1, Column 12	(3) Services Used by natives from Table 1, Column 12	(4) (3) - (2)	(5) Taxes paid by cohort, from Table 2, Column (11)	(6) 20% of taxes paid for pure public goods .2 x (5)	(7) Taxes paid by natives from Table 2, Column (11)	(8) (5) - (7)	(9) (100% - 20%) x (8)	(10) (4) + (6) + (9) Net effect of immigrant cohort upon natives, per immigrant family	(11) (4) + [(5)-(7)] Alternate calculation of net effect of immigrant cohort upon natives, per immigrant family, no allowance for public goods contribution
1974	$1416	$2279	863	$2666	$533	$3201	$-535	$-428	$ 968	$ 328
1973	1200	2279	1079	3302	660	3201	101	81	1820	1180
1972	1510	2279	769	3077	615	3201	-124	-99	1285	645
1971	1233	2279	1046	3140	628	3201	-61	-49	1625	985
1970	1659	2279	620	3011	602	3201	-190	-152	1070	430
1965-69	1941	2279	338	3552	710	3201	351	281	1329	689
1960-64	2247	2279	32	4064	813	3201	863	690	1535	895
1950-59	2292	2279	13	3927	785	3201	726	581	1353	713

outlays of $326,185 million, or ($96,463/$326,185 =) 29.6% (p. 284, Economic Report of the President, 1980). Federal government expenditures were ($356.8 ÷ $532.8 =) 67% of total government expenditures (p. 288), so the public goods categories are (67% x 29.6% =) 20% of all taxes. Hence 20% of taxes paid by immigrants are shown in column 7.

Next come other taxes. The differences between the amounts of taxes paid for non-public-good services by immigrants and by natives are shown in column 8 of Table 3. To the extent that immigrants pay less or more than natives, immigrants are taking from, or giving to, natives through the public coffers, in excess of the services they use.

We may summarize the logic of the tax calculation as follows:

Benefit to natives = (taxpaid services used by average native less taxpaid serviced used by average immigrant) + (20% of taxes paid by immigrant as contribution to expenditures on public goods) + (80% of the difference between taxes paid by the average native family and the average immigrant family, a quantity which is negative in some cases).

A calculation is also shown in column 11 of Table 3 for the less realistic but more "conservative" assumption that there is no public goods element in immigrants' taxes that immediately lowers the tax burden of natives (or increases benefits from the tax-paid services).

V. THE NET EFFECT OF IMMIGRANTS UPON NATIVES

Now we are in position to sum the effects on a year-by-year basis. This summary is shown in column 10 of Table 3. There we see that in every year after entry (until they themselves retire, at which time their own children are supporting them through the Social Security and Medicare

system) immigrants benefit natives through the public coffers. And a calculation of the net present value of the stream of differences shows that immigrants are a remarkably good investment at any conceivable rate of discount. At a 3% discount rate, each immigrant family was worth about $20,600 to natives around 1975, to be compared with the mean yearly native family earnings of $11,037; at 6% the present value would be about $15,800 and at 9% it would be about $12,400.

These calculations, however, are partial because they omit both the capital-dilution effect (negative with respect to natives) and the productivity effect (positive with respect to natives). Estimation of these effects requires a macroeconomic model, plus some key parameter estimates such as the proportion of the returns to existing capital that are captured by immigrants. But based on a model discussed elsewhere (Simon, forthcoming in Chiswick), together with the transfers estimated here, one may conclude that the average immigrant is an excellent investment for taxpayers on almost any reasonable set of parameter estimates.

The obvious implication of these calculations is that, in the numbers in which they are now admitted, immigrants have a positive effect on natives' incomes. The question may be raised, however, about how the calculations would be affected if the flow of immigrants would be greatly increased or decreased, that is whether the effect of an additional immigrant depends on the scale of immigration. Scale effects are embodied in the full model through the Malthusian diminishing-returns mechanism in the production function. This mechanism operates across the board at any scale of immigration. There is no obvious reason to believe that, with respect to production capital, the negative Malthusian effect is

greater at one scale or another. There are possible infrastructure congestion and economies-of-scale effects, of course, but this is much too wide a subject to be discussed here. This topic as a whole goes far beyond the boundaries of my assigned topic, and in fact far beyond any knowledge that is currently available.

VI. THE EFFECT UPON INCOME DISTRIBUTION

Two important side issues upon which these data throw some light are (a) the effect on the overall income distribution, and (b) the effect upon the poorest segment of the native population.

Concerning the overall earnings distribution, we may first consider the standard deviation as a measure of distribution, and we see in Table 2 that it is smaller relative to mean income--as well as absolutely smaller, on the average--for immigrant families in the various cohorts than for natives.

A more explicit and intuitive approach is to examine the proportions of families in the various age brackets. Table 4 such shows data from the 1970 Census. The 1965-1970 cohort shows a larger proportion of immigrants than natives in the lowest age brackets, but this figure is confused by the fact that the income data were for 1969, before the 1969 and 1970 portions of the 1965-1970 cohort were in the U.S. for a full year of work. The 1960-64 cohort already has a substantially lower proportion of families with the lowest incomes than do natives. In the SIE sample, too, we see in Table 5 that starting with the second year after entry (the 1974 cohort in 1975), there are fewer immigrant families in the lowest income categories than among natives, and this continues true up to the oldest immigrants. And for the first eleven years after entry

the proportion of immigrants in the highest income brackets is lower than for natives. Including income from assets for both natives and immigrants would surely intensify this pattern. We can therefore say that for at least the first decade after entry, immigrants reduce the family income distribution at both the high and low ends. (These measures are likely to be quite misleading from a welfare-judgment point of view, of course, because of the very different age and size compositions of the native sample and the various immigrant cohorts. One could attempt to control for such variables, but that will constitute a major investigation in itself.)

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Tables 4 and 5
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In order to estimate the effects of immigrants on the various earnings classes in the labor market we must consider, not the entire group of immigrant families in each cohort compared to all native families, but rather participants in the same general labor market. Therefore we examine the distribution of earnings by the male heads of families, aged 24-64, in the various immigrant cohorts and among natives,* as seen in Table 6. There we see that immigrants come to have a smaller proportion of men in the lowest earnings bracket than do natives after 10-15 years. Until that time immigrants may have a negative effect upon the lowest-earning groups. It may also be, however, that the observed effect is due to the youthful composition of new immigrant cohorts, and

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*The 24-64 break rather than the more common 25-64 break was simply for convenience.

TABLE 4

Native and Immigrant Families in Various Income Brackets in 1969
(Data from 1970 Census)

	Under $1,999	$2,000 to $3,999	$4,000 to $5,999	$6,000 to $7,999	$8,000 to $9,999	$10,000 to $14,999	$15,000 to $24,999	$25,000 or more
% Total U.S.	5.9	9.3	10.8	12.9	13.9	26.6	16.0	4.6
% Immigrants Entered								
1965-70	9.0	10.2	13.5	14.9	13.6	24.0	12.6	2.1
1960-64	4.5	6.5	10.9	13.5	14.7	29.2	16.9	3.7
1955-59	4.3	5.5	9.1	12.1	14.6	30.5	19.4	4.5
1950-54	4.1	6.0	10.0	12.1	14.2	30.1	19.4	5.6

Source: U.S. Bureau of the Census, Census of Population; 1970 Subject Reports, Final Report PC(2)-1A, National Origin and Language (Washington: GPO, 1973), p. 466.

1975 EARNINGS DISTRIBUTIONS OF FAMILIES FOR IMMIGRANTS AND NATIVES IN PERCENT OF EACH GROUP (WEIGHTED FOR STRATIFICATION)

Year Entered U.S.	< $2,500	$2,500-4,999	$5,000-9,999	$10,000-14,999	$15,000-19,999	$20,000-29,999	$30,000-39,999	$40,000-49,999	$50,000-74,999	≥ $75,000
1974	12.0	22.9	26.6	22.6	4.5	8.4	.2	2.0	.4	.3
1973	16.5	10.8	30.4	20.2	10.7	13.5	.8	.9	2.2	0
1972	1.5	15.4	33.7	21.7	12.3	9.5	5.2	.7	.1	0
1971	5.7	15.1	37.0	18.9	8.7	8.3	2.6	1.9	1.7	0
1970	7.5	9.8	29.4	27.9	16.1	6.4	2.3	.4	0	0
1965-1969	4.5	9.5	28.6	24.0	14.2	14.8	2.7	1.0	.6	.1
1960-1964	6.6	7.1	19.2	24.7	14.6	19.1	4.1	3.2	1.5	0
1950-1959	6.5	7.2	22.3	21.2	18.9	16.3	5.4	1.2	1.1	0
Natives	10.7	8.7	21.5	22.3	15.8	15.5	3.3	1.2	1.0	.1

that if we were to hold age composition constant, the effect would disappear. Unfortunately, the numbers of persons of various ages in the various immigrant cohorts are sufficiently small that a refined analysis is necessary to answer the question.*

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Table 6

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In assessing the findings in this section, the reader may wish to keep in mind that the ethnic composition of immigrants has been changing over the years, and especially since 1965. The earlier-entering cohorts were much more heavily European than were the latest-entering cohorts, and there probably were changes in mean education levels as well (perhaps increases in the proportion of both low and high educational levels, with a decrease in the middle, as North [1979] suggests.) This limits our capacity to extrapolate from past experience to the future. For any specified distribution of characteristics of an entry cohort, however, the data for the past cohorts could be made to yield more comparable estimates. The next section bears tangentially on this matter.

Finally, if immigrants are of a skill mix similar to natives, or have fewer persons in low-skill categories, low-income natives should not suffer injury in the labor market except in the shortest run, because the increased demand caused by the immigrants would thus lead to as many new jobs as the immigrants fill.

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*Jeremy Atack and I intend to pursue this line of work in the next year.

Table 6

EARNINGS DISTRIBUTIONS OF MALE HEADS OF FAMILIES AGE 24-64,
IN MALE-HEADED FAMILIES, FOR IMMIGRANTS AND NATIVES,
IN PERCENT OF EACH GROUP
(WEIGHTED FOR STRATIFICATION)

Year Entered U.S.	< $2,500	$2,500-4,999	$5,000-9,999	$10,000-14,999	$15,000-19,999	$20,000-29,999	$30,000-39,999	$40,000-49,999	> $50,000
1974	13.8	22.9	34.5	18.6	2.6	3.9	.2	2.6	.9
1973	11.2	12.7	35.1	21.7	7.8	6.7	.5	1.3	3.0
1972	2.3	12.9	47.1	22.4	7.1	8.2	0	0	0
1971	9.8	15.0	41.5	20.2	6.1	5.1	1.5	.8	0
1970	7.3	8.7	44.2	23.5	12.6	2.5	.6	.4	0
1970-1974	5.4	11.0	35.4	26.6	12.2	6.9	1.3	.5	.8
1965-1969	2.2	9.1	28.8	29.8	11.5	13.1	2.7	1.0	1.3
1960-1964	4.2	4.2	24.5	29.0	22.3	11.8	2.7	.4	.9
1950-1959	4.1	5.2	18.5	29.6	21.0	16.3	2.6	1.5	1.4
Natives	4.3	5.3	24.1	33.5	18.1	10.9	2.3	.6	.8

VII. SPECIAL CRITERIA FOR ADMISSION

The calculations and discussions offered until now apply to the broadest sort of social decision concerning immigrants, to wit, how many to admit. But policy decisions may be taken, not only about the total number of immigrants, but also about the characteristics of immigrants who will, and who will not, be given immigrant visas. If so, the issue will certainly be debated in terms of the economic impact of various sub-groups of potential immigrants. To put it another way: What sort of characteristics are associated with high economic performance?

We do not need refined analysis to tell us that young immigrants with high education are the most desirable economically. Education leads to a high level of taxes paid due to high earnings, as well as to low usage of social services. The extent of the effect is revealed by regressions holding constant such variables as age and entry date. Appendix B shows the results of several such regressions. (The dummy variable technique is used for education, age, and time in the United States, rather than continuous linear or non-linear specifications, because I did not enter into an extensive investigation of the appropriate functional forms, and I did not wish to run the risk of mis-specification by imposing one or another form in the absence of such an investigation. If one wishes, the dummy-variable regressions shown here may be viewed as a preliminary step in deciding how the regressions might best be specified continuously.) The results for the effect of education on male-head earnings seem generally to jibe with Chiswick's results for the 1970 Census using regressions specified in somewhat different fashion.

Also shown in Appendix B are regressions of the receipt of transfer payments other than Social Security upon education and various other variables. A high level of education seems to be associated with lower use of such services, but the highest amount of services used are by the 9-11 years-of-school group--about $450 more than 19+ years of schooling, in all the cohorts--and the amount is gradually less with fewer years of schooling--down to around $300 more than the 19+ group for the 1-4 years group.

As to age: Ceteris paribus, the younger is an immigrant, the more years will the immigrant be a net contributor to native's incomes via transfer payments before he or she retires (at which time, however, the immigrant's children are effectively "supporting" him or her and making the net balance zero). That is, the younger the immigrant, the more years the "investment asset" yields a return. Furthermore, younger immigrants are less likely to have children in school or even born, and hence the net balance with natives is even more positive. But in any given year the 35-39 age group get less services than any other age group.

As the ethnicity: This is a very complex topic. The work is still too incomplete to report, especially in light of the possible repercussions of an incorrect assessment. For example, the preliminary data suggest that the earnings pattern for Russian-Polish immigrants may be quite different in the 1970-1975 cohorts than in earlier cohorts, an effect which might be masked in a regression that lumps all cohorts together. And one can obtain entirely different results for an ethnic group depending on whether age and schooling and ability with English

are, or are not, held constant; both ways of looking at country of origin could be appropriate for various purposes. Hence the results of this work will be reported later. In any case, I doubt that anyone would wish to make any policy decisions based on these results. In light of our basic social value of avoiding ethnic discrimination wherever possible, discrimination by education and perhaps age would seem to be vastly preferable, as well as more effective.

VIII. SUMMARY AND CONCLUSIONS

From the time of entry until about 12 years later, immigrants use substantially less public services (largely due to less use of Social Security because of youth) than do native families. Then immigrant usage becomes roughly equal to natives. After about 2-6 years immigrant families come to pay as much in taxes than do native families, and after that they pay substantially more. And the net balance of these two forces is positive in every year for natives. That is, immigrants contribute more to the public coffers than they take from them.

Immigrants also seem to have the "beneficial" effect of narrowing the income distribution of all families. The earning distribution of male immigrant-workers suggests the possibility that immigrants may compete disproportionately with low-wage workers for more than a decade after entry; this apparent effect may be specious, however, explainable by age distribution rather than by the job-market characteristics of immigrants.

The results arrived at here generally square with findings of previous research. The pattern of immigrants quickly contributing more in

taxes than they receive in services is also found in Israel and in Canada. And the data on age distribution and the number of earners square with the UK data as well as with Israel and Canada.

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